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PATENT APPLICATION
ATTORNEY DOCKET NO. 10017897-1

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JUL 19 2005

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Memphis Yin

Application No.: 10/015,912

Filing Date: 10/30/2001

Title: Display Device Power Savings

Confirmation No.: 5841

Examiner: Xiao Min Wu

Group Art Unit: 2674

Mail Stop Appeal Brief-Patents
Commissioner For Patents
PO Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF

Sir:

Transmitted herewith is the Appeal Brief in this application with respect to the Notice of Appeal filed on May 20, 2005.

The fee for filing this Appeal Brief is (37 CFR 1.17(c)) \$500.00.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

() (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d) for the total number of months checked below:

- () one month
- () two months
- () three months
- () four months

() The extension fee has already been filled in this application.

(X) (b) Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Please charge to Deposit Account 08-2025 the sum of 500.00. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.25. Additionally please charge any fees to Deposit Account 08-2025 under 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees. A duplicate copy of this sheet is enclosed.

() I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Alexandria, VA 22313-1450. Date of Deposit: _____

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Number of pages: 26

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Rev 12/04 (Apbrier)

Respectfully submitted,

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Application Serial No.10/015,912
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Inventorship Yin
5 Applicant Hewlett-Packard Company
Group Art Unit 2674
Examiner Wu, Xiao Min
Attorney's Docket No. 10017897-1
Title: Display Device Power Savings

APPEAL BRIEF

15 To: MS: Appeal Brief - Patents
Commissioner for Patents
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25 Pursuant to 37 C.F.R. §41.37, Appellant hereby submits an Appeal Brief
for Application No. 10/015,912 filed October 30, 2001. A Notice of Appeal was
filed May 20, 2005. Accordingly, Appellant appeals to the Board of Patent
Appeals and Interferences seeking review of the Examiner's rejections.

30

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TABLE OF CONTENTS

<u>Appeal Brief Items</u>	<u>Page</u>
(i) Real Party in Interest	3
(ii) Related Appeals and Interferences	3
(iii) Status of Claims	3
(iv) Status of Amendments	4
(v) Summary of Claimed Subject Matter	5
(vi) Grounds of Rejection to be Reviewed on Appeal	9
(vii) Argument	9
(viii) Claims Appendix	15
(ix) Evidence Appendix	None
(x) Related Proceedings Appendix	None

(i) Real Party in Interest

The real party in interest is the Hewlett-Packard Company, the assignee of all right and title to the subject invention.

5 **(ii) Related Appeals and Interferences**

Appellant is not aware of any other appeals or interferences which will directly affect, be directly affected by, or otherwise have a bearing on the Board's decision to this pending appeal.

10 **(iii) Status of Claims**

Allowed Claims: No claims have been allowed.

Canceled Claims: Claims 2, 4, 10, 12-13, 18, 25, and 27 were previously canceled.

15 **Amended Claims:** Claims 1, 8, 22, and 28 have been previously amended.

Pending Claims: Claims 1, 3, 5-9, 11, 14-17, 19-24, 26, and 28-47 stand rejected and are pending in this Application as set forth in the Claims Appendix on page 15.

20 **Appealed Claims:** All of the pending claims are subject to this appeal and stand rejected in view of Cho as set forth in the Final Office Action dated February 23, 2005. Claims 1-2, 5-10, 13-18, 20-22, 24, 26-28, and 30 stand rejected under 35 U.S.C. §102(e) as being anticipated by Cho. Claims 3, 11, 19, 23, and 29 stand rejected under 35 U.S.C. §103(a) for obviousness over Cho.

25

(iv) Status of Amendments

A Final Office Action was issued on February 23, 2005 whereupon Appellant filed a Response on March 23, 2005 to address the rejections of pending claims 1, 3, 5-9, 11, 14-17, 19-24, 26, and 28-47. No claims were
5 amended in the Response.

An Advisory Action was issued on April 25, 2005 dismissing Appellant's traversal and maintaining the rejection of the pending claims 1, 3, 5-9, 11, 14-17, 19-24, 26, and 28-47.

Appellant filed a Notice of Appeal on May 20, 2005 in response to the
10 Advisory Action and the Final Office Action.

(v) Summary of Claimed Subject Matter

Following is a concise explanation of each independent claim 1, 8, 16, 22, 28, 31, 36, 40, and 44 involved in the Appeal which includes specification references and exemplary figure reference characters. As explained herein, the independent claims are not limited solely to the elements identified by the reference characters.

Claim 1 is directed to a portable computing device (300, Fig. 3) that includes a graphical display (308), a power source (314, Fig. 4) to operate the graphical display, and a selectable control (310 or 312) to initiate shutting down an operating system (320) and turning off power to operate the computing device. The graphical display is turned off to conserve the power to operate the graphical display when the selectable control is selected, and the graphical display is turned off before the operating system is shut down.

Appellant describes that when a shutdown control (310 or 312) is selected, a process is initiated to shutdown computing device (300). The process shuts down the operating system (320) and any other processes running on computer (300) to a point at which it is safe to turn off the power to computer (300). The shutdown process also turns off the power to computing device (300). (*Specification* p.5, lines 21-25).

Further Appellant describes in the specification at least on page 6, lines 11-24 that when the shutdown control (310 or 312) is selected, a component, such as display component (318) or application component (322), turns off graphical display (308) to conserve power before the process to shutdown computing device (300) is initiated. Turning off graphical display (308) when shutdown control (310 or 312) is selected, and before the process to shutdown computing device (300) is initiated, conserves power (314) that would

otherwise be utilized to operate the graphical display (308) to display information pertaining to the operating system (320) shutting down computing device (300).

5 Claims 8, 16, 22, and 28 recite similar feature(s) as those recited in claim 1. For example:

Claim 8 is directed to an electronic device and includes a component (322) that turns off the graphical display (308) when the selectable control (310) is selected and before the shutdown of the operating system (320) running on the electronic device is initiated.

Claim 16 is directed to a display device and includes a display component (318) that turns off the graphical display (308) when an operating system shutdown control (312) is selected and before a process to shutdown the operating system (320) is initiated.

15 Claim 22 is directed to a method and includes turning off a graphical display (308) of a computing device (300) to conserve power that operates the graphical display (308) when a selectable control (310) is selected, and before initiating a shutdown of an operating system (320) running on the computing device (300).

20 Claim 28 includes turning off a graphical display (308) of a portable computing device (300) to conserve power to operate the graphical display (308) when an operating system selectable control (312) is selected and before initiating a shutdown of the operating system (320) running on the portable computing device (300).

25

 As described above with reference to claim 1, when a shutdown control (310 or 312) is selected in claims 8, 16, 22, and 28, a component (318 or 322)

of the device (300) turns off the graphical display (308) to conserve power before the process to shutdown the device is initiated. Turning off graphical display (308) before the process to shutdown the device is initiated conserves power (314) that would otherwise be utilized to operate the graphical display (308). (*Specification* p.6, lines 11-24).

Claim 31 is directed to a computing device (300) that includes a graphical display (308) and a power source (314) to power the graphical display (308). A component (318 or 322) turns off the graphical display (308) which conserves power before shutting down an operating system (320) running on the computing device (300).

Appellant claims that a graphical display (308) of a computing device (300) is turned off to conserve power before the shutdown of an operating system (320) running on the computing device (300) when a shutdown process is initiated to turn off power to operate the computing device (300).

Appellant describes in the specification at least on page 6, lines 11-24 that a component, such as display component (318) or application component (322), turns off graphical display (308) to conserve power before a process to shutdown the computing device (300) is initiated. Turning off the graphical display (308) before the process to shutdown computing device (300) conserves power (314) that would otherwise be utilized to operate graphical display (308).

Claims 36, 40, and 44 recite similar feature(s) as those recited in claim 31. For example:

Claim 36 is directed to a method and includes turning off a graphical display (308) of a computing device (300) to conserve power when a shutdown

process is initiated, and shutting down an operating system (320) running on the computing device (300) after turning off the graphical display (308).

Claim 40 is directed to computer readable media that includes computer executable instructions which execute to direct a computing device (300) to
5 receive a selectable input to initiate a shutdown process of the computing device (300) and turn off a graphical display (308) of the computing device (300) to conserve power when the shutdown process is initiated. The computer executable instructions also direct the computing device (300) to shutdown an operating system (320) running on the computing device (300) after the
10 graphical display (308) is turned off.

Claim 44 is directed to a computing device (300) and includes means to turn off a graphical display (308) of the computing device (300) to conserve power when the shutdown process is initiated, and means to shutdown an operating system (320) running on the computing device (300) after the
15 graphical display (308) is turned off.

As described above with reference to claim 31, when a shutdown process is initiated in claims 36, 40, and 44, a component, such as display component (318) or application component (322), turns off graphical display
20 (308) to conserve power before the process to shutdown computing device (300). Turning off the graphical display (308) before the process to shutdown computing device (300) is initiated conserves power (314) that would otherwise be utilized to operate graphical display (308).

25

(vi) Grounds of Rejection to be Reviewed on Appeal

The rejection of all pending claims 1, 3, 5-9, 11, 14-17, 19-24, 26, and 28-47 which stand rejected in view of Cho as set forth in the Final Office Action dated February 23, 2005.

5 Claims 1-2, 5-10, 13-18, 20-22, 24, 26-28, and 30 stand rejected under 35 U.S.C. §102(e) as being anticipated by Cho.

Claims 3, 11, 19, 23, and 29 stand rejected under 35 U.S.C. §103(a) for obviousness over Cho.

10 **(vii) Argument**

(A) Cho does not disclose a graphical display of a computing device being turned off to conserve power before an operating system is shutdown.

Claims 1, 3, 5-9, 11, 14-17, 19-24, 26, and 28-30

Claim 1, for example, recites:

15 a graphical display;

a power source configured to provide power to operate the graphical display;

20 a selectable control configured to initiate a shutdown of an operating system running on the portable computing device and to initiate turning off power to operate the portable computing device; and

25 a component configured to turn off the graphical display and conserve the power to operate the graphical display when the selectable control is selected and before the shutdown of the operating system running on the portable computing device is initiated.

Appellant claims that a graphical display of a portable computing device is turned off to conserve power before the shutdown of an operating system running on the computing device when a control is selected to initiate turning off power to operate the computing device.

5

The Office states that Appellant's Fig. 1 shows a shutdown process for a computer with the exception of a display being turned off before an operating system is shutdown (*Final Office Action* dated February 23, 2005, p.4; hereinafter, "*Office Action*"). Appellant agrees with the Office that Appellant's
 10 Fig. 1 does not show that a graphical display of a portable computing device is turned off before an operating system is shutdown.

The Office also states Cho teaches "the display power is turned off before other components of the computer are shutdown or turned off" (*Office Action* p.4). Clearly, the Office cannot assert that Cho teaches the display
 15 power is turned off before an operating system is shutdown, as Appellant claims, because Cho is deficient in this teaching. Appellant does not disagree that Cho describes the display power being turned off mere milliseconds before the system power is turned off. However, Cho has not considered or provided
 20 any time to shut down an operating system running on a computing device within the few milliseconds after the display has been turned off and before the system power is cut off.

Cho only describes that display screen power is shutdown just before the computer system power is cut off to prevent flicker and damaging the display screen with an abrupt electrical surge (*Cho* col.3, line 35 to col.4, line 24). Cho
 25 simply sends an interrupt signal (S200, Fig. 4) to output a display power shutdown signal (S220, Fig. 5) to shutdown various signals of the display

(S222-S227, Fig. 6). Cho also indicates several milliseconds delay between the various shutdown signals of the display (*see* Fig. 6).

When the display is shutdown, a display power shutdown completion signal is output (S227, Fig. 6), then a display power shutdown confirm signal is output (S240, Fig. 5), and then a system power off signal is output (S400, Fig. 4) to cut off the computer power. However, Cho does not indicate any sort of delay between the display power shutdown completion signal (S227) and the output of the system power off signal (S400). Accordingly, Cho has not considered or provided any time to shut down an operating system that may be running on a computing device within the few milliseconds after the display has been turned off and before the system power is cut off.

Further, the Office even recognizes that Cho does not teach an operating system being shut down after a graphical display has been turned off (*Office Action* dated July 12, 2004, p.3). The Office states Cho discloses that a microcomputer first sends out a signal to cut off power to a liquid crystal display and then sends out a signal to cut off power to the entire system (*Cho* col.4, lines 21-24). Cho is directed to the power shutdown of a computer system, and the "system" referenced in Cho is the hardware power system of a notebook computer.

There is no indication whatsoever of shutting down an operating system or other executable processes in Cho. Again, Cho provides no basis to conclude that an operating system is shutdown within the few milliseconds between when the display is turned off and when the system power is cut off.

The Office states that the combination of Appellant's Fig. 1 and Cho "would provide a blank display when the shutdown processing is initiated, so that the display power can be saved and the flickering and afterimage can be avoided" (*Office Action* p.4). Appellant contends that there is no basis to even

combine Cho with Appellant's Fig. 1 because Cho, by itself, describes that the display screen power is shutdown (provides a blank display) just before system power is cut off to prevent flicker and damage to the display screen.

Given that (1) the Office recognizes Appellant's Fig. 1 does not show a graphical display of a portable computing device being turned off before an operating system is shutdown; (2) the Office recognizes that Cho is deficient and does not teach display power being turned off before an operating system is shutdown; and that (3) there is no basis to even combine Cho with Appellant's Fig. 1, Appellant submits that the Office is improperly relying upon the disclosure of the subject application to interpret a non-existent feature of Cho as a basis to substantiate a rejection of the subject application. Merely concluding that it would be obvious to modify Cho with the disclosure of the subject application is not a proper basis to substantiate a rejection.

Accordingly, Appellant respectfully requests that the §102 and §103 rejections be withdrawn for at least the reasons described above and that claims 1, 3, 5-9, 11, 14-17, 19-24, 26, and 28-30 be allowed.

(B) Cho does not disclose turning off a graphical display of a computing device to conserve power, and then shutting down an operating system after turning off the graphical display.

Claims 31-47

Claim 36, for example, recites a method comprising:

5 receiving a selectable input to initiate a shutdown process of a computing device;

turning off a graphical display of a computing device to conserve power when the shutdown process is initiated; and

10 shutting down an operating system running on the computing device after turning off the graphical display.

In a Preliminary Amendment filed June 10, 2004, Appellant submitted
15 new claims 31-47 that expressly recite a combination of features suggested by the Examiner in a teleconference on June 9, 2004. Appellant claims that when an input is received to shutdown a computing device, a graphical display of the computing device is turned off first, an operating system running on the computing device is shut down second (i.e., after the graphical display is turned
20 off), and third, power to operate the computing device is turned off.

Other than to list claims 31-47 as being rejected on the *Office Action Summary* form, claims 31-47 are not indicated as being allowable, rejected, or otherwise discussed anywhere within the Detailed Action beginning at page 2 of the Office Action. The Office has not provided a basis to properly reject
25 claims 31-47 and further, based on the discussion of Cho above with reference to claim 1, claims 31-47 are allowable over Cho.

Accordingly, Appellant respectfully requests that the §102 rejection be withdrawn and that claims 31-47 be allowed.

Conclusion

5 Appellant respectfully requests that the rejections of pending claims 1, 3, 5-9, 11, 14-17, 19-24, 26, and 28-47 be overturned and that the pending claims be allowed to issue.

Respectfully Submitted,

10

Dated: July 19, 2005

By: 

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15

(viii) Claims Appendix

1. A portable computing device, comprising:
 - a graphical display;
 - 5 a power source configured to provide power to operate the graphical display;
 - a selectable control configured to initiate a shutdown of an operating system running on the portable computing device and to initiate turning off power to operate the portable computing device; and
 - 10 a component configured to turn off the graphical display and conserve the power to operate the graphical display when the selectable control is selected and before the shutdown of the operating system running on the portable computing device is initiated.
- 15 3. A portable computing device as recited in claim 1, wherein the graphical display is configured to display the selectable control.
5. A portable computing device as recited in claim 1, wherein the component is a graphical display controller.
- 20 6. A portable computing device as recited in claim 1, wherein the component is further configured to determine when the selectable control is selected.
- 25 7. A portable computing device as recited in claim 1, wherein the component is a software application configured to determine when the selectable control is selected.

8. An electronic device, comprising:

a graphical display;

a selectable control configured to initiate a shutdown of an operating system running on the electronic device and to initiate turning off power to
5 operate the electronic device; and

a component configured to turn off the graphical display when the selectable control is selected and before the shutdown of the operating system running on the electronic device is initiated.

10 9. An electronic device as recited in claim 8, further comprising a power source, wherein power to operate the graphical display is conserved when the component turns off the graphical display.

11. An electronic device as recited in claim 8, wherein the graphical
15 display is configured to display the selectable control.

14. An electronic device as recited in claim 8, wherein the component is further configured to determine when the selectable control is selected.

20

15. An electronic device as recited in claim 8, wherein the component is a software application configured to determine when the selectable control is selected.

16. A display device, comprising:

a graphical display; and

a display component configured to turn off the graphical display when
an operating system shutdown control is selected and before a process to
5 shutdown the operating system is initiated.

17. A display device as recited in claim 16, further comprising a
power source, wherein power to operate the graphical display is conserved
when the display component turns off the graphical display.

10

19. A display device as recited in claim 16, wherein the graphical
display is configured to display the operating system shutdown control.

20. A display device as recited in claim 16, wherein the display
15 component is further configured to determine when the operating system
shutdown control is selected.

21. A display device as recited in claim 16, wherein the display
component is a graphical display controller.

20

22. A method, comprising:

initiating a shutdown of an operating system running on a computing device in response to a selectable control being selected;

5 turning off a graphical display of the computing device to conserve power that operates the graphical display when the selectable control is selected and before initiating the shutdown of the operating system running on the computing device; and

turning off power to operate the computing device in response to the selectable control being selected.

10

23. A method as recited in claim 22, further comprising displaying the selectable control on the graphical display.

24. A method as recited in claim 22, further comprising determining
15 when the selectable control is selected.

26. A method as recited in claim 22, wherein turning off the graphical display includes turning off a graphical display controller.

28. One or more computer-readable media comprising computer executable instructions that, when executed, direct a portable computing device to perform a method comprising:

initiating a shutdown of an operating system running on the portable
5 computing device in response to an operating system selectable control being selected;

turning off a graphical display of the portable computing device to
conserve power to operate the graphical display when the operating system
selectable control is selected and before initiating the shutdown of the
10 operating system running on the portable computing device; and

turning off power to operate the portable computing device in response
to the operating system selectable control being selected.

29. One or more computer-readable media as recited in claim 28,
15 further comprising displaying the operating system selectable control on the graphical display.

30. One or more computer-readable media as recited in claim 28,
further comprising determining when the operating system selectable control is
20 selected.

31. A computing device, comprising:
a graphical display;
a power source configured to power the graphical display; and
a component configured to turn off the graphical display and conserve
5 the power before shutdown of an operating system running on the computing
device.

32. A computing device as recited in claim 31, wherein the
component is further configured to shutdown the computing device after the
10 shutdown of the operating system.

33. A computing device as recited in claim 31, wherein the graphical
display is configured to display a selectable control that, when selected,
initiates a shutdown process of the computing device, the shutdown process
15 configured to first turn off the graphical display, second shut down the
operating system, and third shut down the computing device.

34. A computing device as recited in claim 31, further comprising a
selectable control that, when selected, initiates a shutdown process of the
20 computing device, the shutdown process configured to first turn off the
graphical display, second shut down the operating system, and third shut down
the computing device.

35. A computing device as recited in claim 31, further comprising a selectable control that, when selected, initiates a shutdown process to first turn off the graphical display and second shutdown the operating system, and wherein the component is further configured to determine when the selectable control is selected.

36. A method, comprising:
receiving a selectable input to initiate a shutdown process of a computing device;
10 turning off a graphical display of a computing device to conserve power when the shutdown process is initiated; and
shutting down an operating system running on the computing device after turning off the graphical display.

15 37. A method as recited in claim 36, further comprising turning off power to operate the computing device after first turning off the graphical display and second shutting down the operating system.

20 38. A method as recited in claim 36, further comprising initiating the shutdown process to first turn off the graphical display, second shutdown the operating system, and third shutdown the computing device.

25 39. A method as recited in claim 36, further comprising displaying a selectable control on the graphical display, and wherein receiving the selectable input includes receiving the selectable input via the selectable control displayed on the graphical display.

40. One or more computer readable media comprising computer executable instructions that, when executed, direct a computing device to:

receive a selectable input to initiate a shutdown process of the computing device;

5 turn off a graphical display of the computing device to conserve power when the shutdown process is initiated; and

shutdown an operating system running on the computing device after the graphical display is turned off.

10 41. One or more computer readable media as recited in claim 40, further comprising computer executable instructions that, when executed, direct the computing device to turn off power to operate the computing device after the graphical display is turned off before the operating system is shutdown.

15 42. One or more computer readable media as recited in claim 40, further comprising computer executable instructions that, when executed, direct the computing device to initiate the shutdown process to first turn off the graphical display, second shutdown the operating system, and third shutdown the computing device.

20

43. One or more computer readable media as recited in claim 40, further comprising computer executable instructions that, when executed, direct the computing device to display a selectable control on the graphical display and receive the selectable input via the selectable control.

25

44. A computing device, comprising:

means to receive a selectable input to initiate a shutdown process of the computing device;

means to turn off a graphical display of the computing device to
5 conserve power when the shutdown process is initiated; and

means to shutdown an operating system running on the computing device after the graphical display is turned off.

45. A computing device as recited in claim 44, further comprising

10 means to turn off power to operate the computing device after the graphical display is turned off before the operating system is shutdown.

46. A computing device as recited in claim 44, further comprising

means to initiate the shutdown process to first turn off the graphical display,
15 second shutdown the operating system, and third shutdown the computing device.

47. A computing device as recited in claim 44, further comprising

means to display a selectable control on the graphical display and receive the
20 selectable input via the selectable control.

(ix) Evidence Appendix

None.

(x) Related Proceedings Appendix

5 None.